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assigns it.

# **OPERATORS MANUAL AND PARTS CATALOG**

**FOR  
ONAN  
ELECTRIC GENERATING PLANTS**

**EK-EM  
SERIES**

**SPECS A AND B**

**A1**

928-301

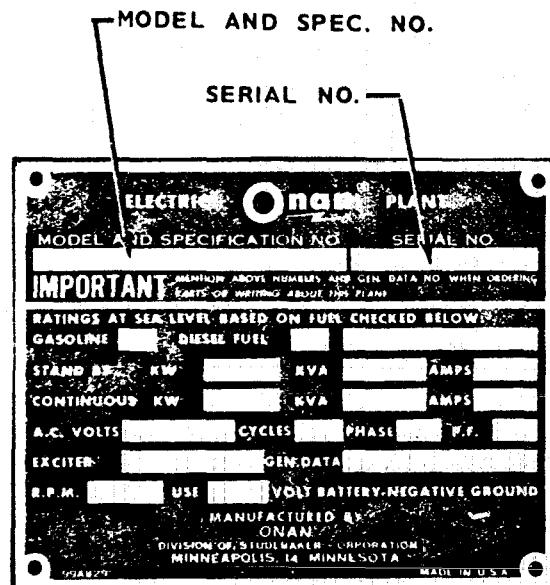
Printed in U.S.A.

12(A - B)70

## INSTRUCTIONS FOR ORDERING REPAIR PARTS

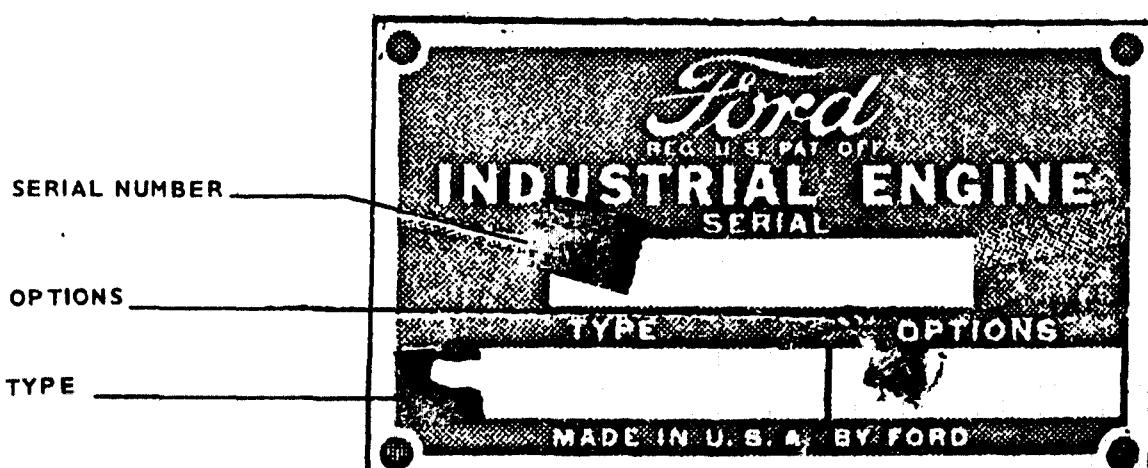
### ONAN PARTS

All parts in this list are *Onan* parts. For *Onan* parts or service, contact the dealer from whom you purchased this equipment or your nearest authorized service station. To avoid errors or delay in filling your order, please refer to the *Onan* nameplate located on the upper right side of the flywheel housing and give the complete:



### FORD PARTS

All Ford parts must be ordered from the Ford Motor Company of Dearborn, Michigan, or their nearest authorized distributor. Refer to the Engine nameplate located on side of the crankcase. When ordering parts, always supply Ford with the following nameplate information:



# PARTS CATALOG

This catalog applies to the standard EK and EM plants as listed below. The EK is powered by a Ford C5PF-6005-A engine and the EM by a Ford C5PG-6005-A engine (see Ford Manual). Engine parts modified or added by *Onan* will be in this list and have *Onan* part numbers. These supersede similar parts listed in the Ford manual. *Onan* parts are arranged in groups of related items and are identified by a reference. All parts illustrations are typical. Using the Model and Spec No. from the *Onan* plant nameplate, select Parts Key No. (1, 2, etc., in the last column) that applies to your plant Model and Spec No. This Parts Key No. represents parts that differ between models. Unless otherwise mentioned, parts are interchangeable. Right and left plant sides are determined by facing the front end of the engine.

## PLANT DATA TABLE

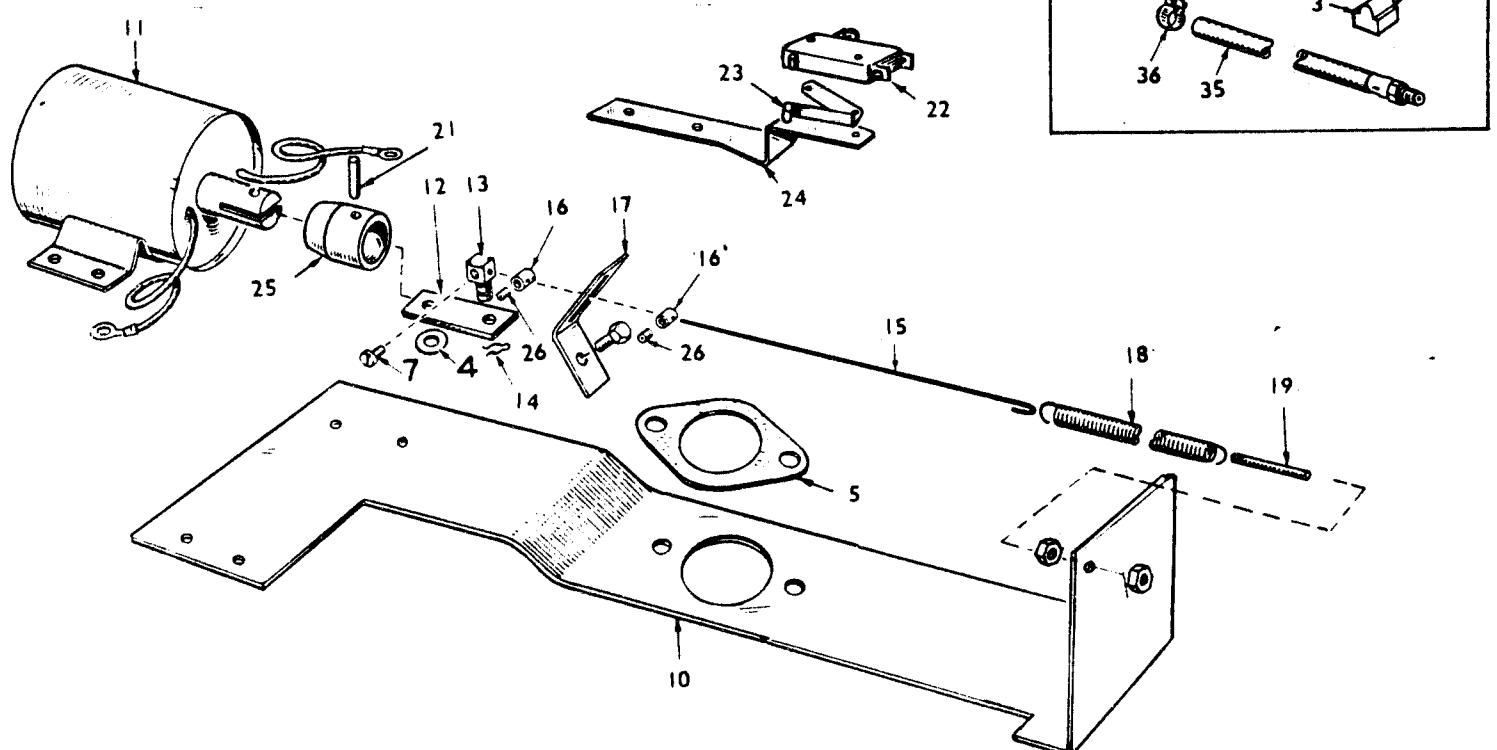
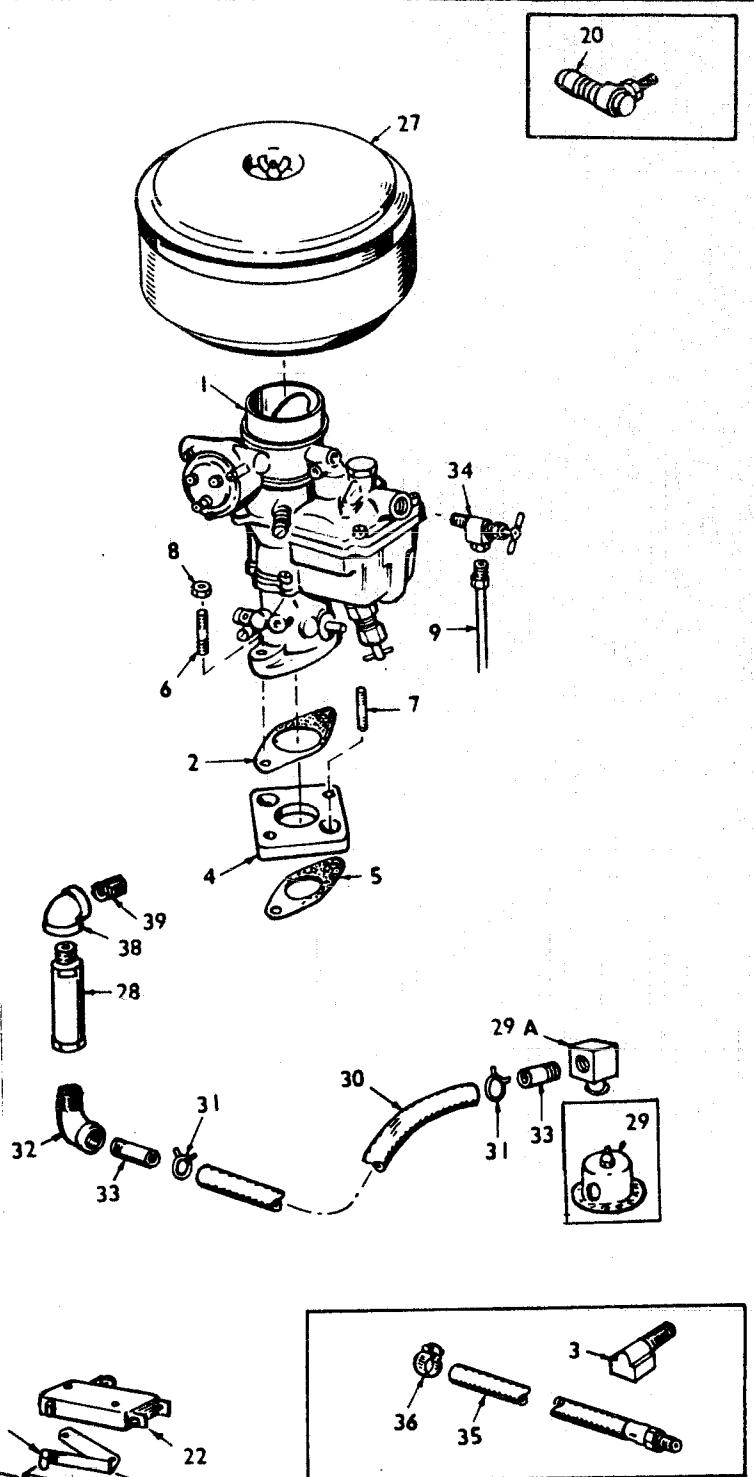
MODEL AND SPEC NO. *		ELECTRICAL DATA					PARTS KEY NO.
HOUSED	UNHOUSED	WATTS	VOLTS	CYCLES	PHASE	WIRE	
25EK-53R/	25EK-53R8/	25,000	120/240	50	1	3	
25EK-53UR/**	25EK-53UR8/**	25,000	120/240	50	1	3	
25EK-54R/	25EK-54R8/	25,000	120/208	50	3	4	
25EK-54XR/	25EK-54XR8/	25,000	277/480	50	3	4	
25EK-55DR/	25EK-55DR8/	25,000	120/240	50	3	4	
25EK-57R/	25EK-57R8/	25,000	220/380	50	3	4	
25EK-59R	25EK-59R8/	25,000	600	50	3	3	
25EK-59XR/	25EK-59XR8/	25,000	347/600	50	3	4	
30EK-3R/	30EK-3R8/	30,000	120/240	60	1	3	
30EK-3UR/**	30EK-3UR8/**	30,000	120/240	60	1	3	
30EK-4R/	30EK-4R8/	30,000	120/208	60	3	4	
30EK-4XR/	30EK-4XR8/	30,000	277/480	60	3	4	
30EK-5DR/	30EK-5DR8/	30,000	120/240	60	3	4	
30EK-9R/	30EK-9R8/	30,000	600	60	3	3	
30EK-9XR/	30EK-9XR8/	30,000	347/600	60	3	4	
37EM-53R/	37EM-53RB/	37,000	120/240	50	1	3	
37EM-53UR/**	37EM-53URB/**	37,000	120/240	50	1	3	
37EM-54R/	37EM-54RB/	37,000	120/208	50	3	4	
37EM-54XR/	37EM-54XR8/	37,000	277/480	50	3	4	
37EM-55DR/	37EM-55DR8/	37,000	120/240	50	3	4	
37EM-57R/	37EM-57R8/	37,000	220/380	50	3	4	
37EM-59R/	37EM-59R8/	37,000	600	50	3	3	
37EM-59XR/	37EM-59XR8/	37,000	347/600	50	3	4	2
45EM-3R/	45EM-3R8/	45,000	120/240	60	1	3	
45EM-3UR/**	45EM-3UR8/**	45,000	120/240	60	1	3	
45EM-4R/	45EM-4R8/	45,000	120/208	60	3	4	
45EM-4XR/	45EM-4XR8/	45,000	277/480	60	3	4	
45EM-5DR/	45EM-5DR8/	45,000	120/240	60	3	4	
45EM-9R/	45EM-9R8/	45,000	600	60	3	3	
45EM-9XR/	45EM-9XR8/	45,000	347/600	60	3	4	
Pennsylvania Approved Models		See special parts list following the main parts list.					
X-Ray Models (EK Only)		Use parts Key No. 2 for generator parts (alternator and exciter).					

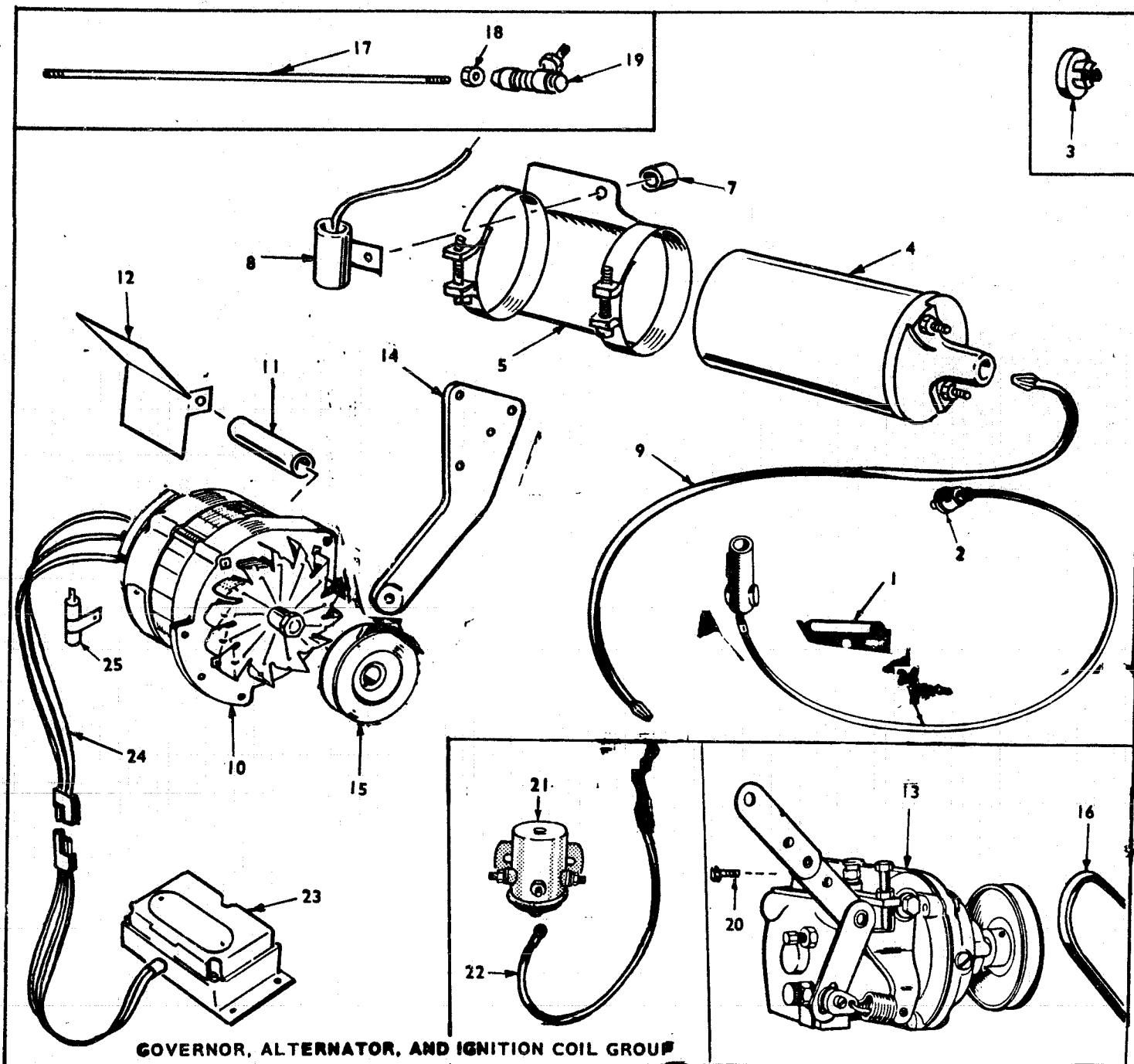
\* - The Specification Letter advances (A to B, B to C, etc.) with manufacturing changes.

\*\* - U designates unity power factor.

# GASOLINE FUEL SYSTEM AND ANTI-DIESELING GROUP

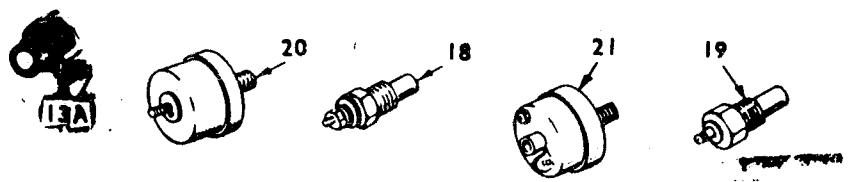
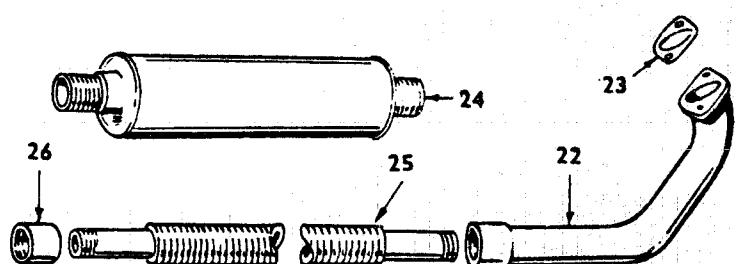
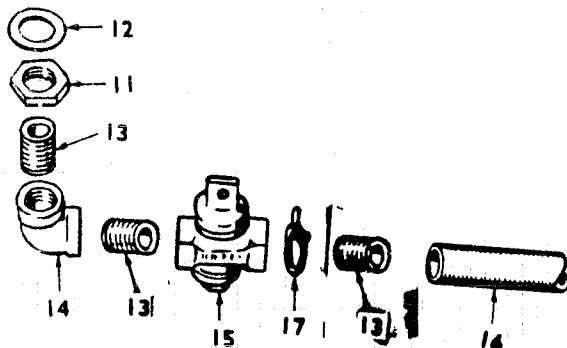
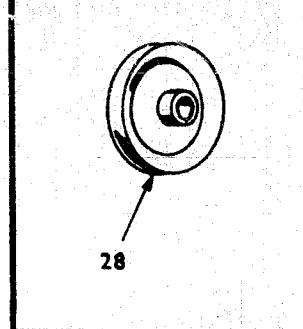
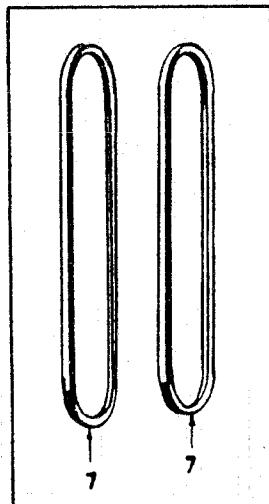
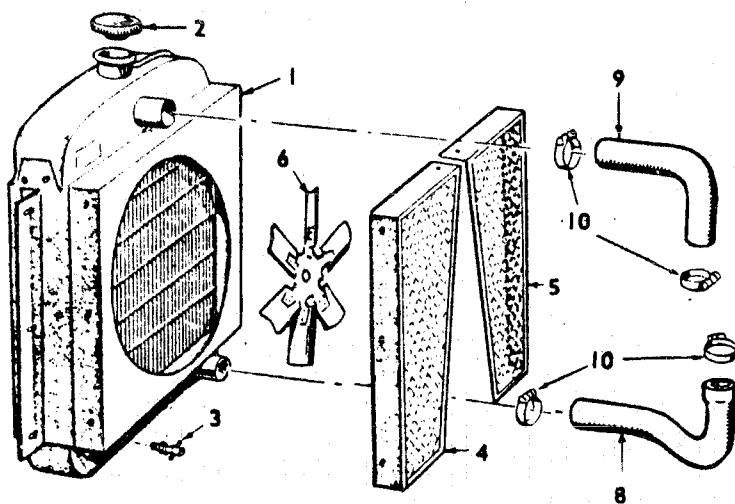
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	*CARBURETOR (Zenith #28B10)		
	141C575	1	Key 1
	141C627	1	Key 2
2	145A120	1	Gasket, Carb. Mtg.
3	502-2	1	Elbow, Fuel Pump Outlet
4	148B593	1	Adapter, Carburetor
5	154A133	2	Gasket, Carb. Adapter
6	520A237	2	Stud, Carb. Mounting
7	520A434	2	Stud, Carb. Adapter Mtg.
8	104A91	2	Nut, Carb. Mounting
9	149C1052	1	Line, Fuel Pump to Carb.
10	145C182	1	Bracket, Anti-Dieseling Cont.
11	307B259	1	Solenoid, Anti-Dieseling
12	145A164	1	Extension, Solenoid Arm
13	142-113	1	Swivel, Choke Lever
14	516-59	1	Pin, Cotter
15	145A166	1	Link, Throttle
16	145A165	2	Stop, Throttle
17	145A163	1	Arm, Override
18	145A158	1	Spring, Throttle
19	150A96	1	<u>Sold, Gov. Adjusting</u>
20	150A638	1	Joint, Ball
21	516-86	1	Pin, Roll
22	309A155	1	Micro Switch
23	309P133	1	Actuator
24	309A131	1	Bracket, Micro Switch
25	309A132	1	Cam, Micro Switch
26	803-2	2	Screw, Socket Head
27	140C261	1	Cleaner, Air
28	123A910	1	Valve, Breather
29	123P911	1	Adapter, Breather <sup>After - Prior</sup> to Serial # 045915
29A	123A1044	1	Adapter, Breather - Begin Serial # 045915
30	503-119	1	Hose, Breather
31	503-131	2	Clamp, Hose
32	505A11	2	Elbow, Street
33	505A10	2	Nipple, Half
34	504-7	1	Valve, Shut-off - Carb. Inlet
35	501A125	1	Line, Fuel to Pump
36	503-446	1	Clamp, Fuel Line
38	505-38	1	Elbow, 90° (Breather)
39	505-71	1	Nipple (Breather)





GOVERNOR, ALTERNATOR, AND IGNITION COIL GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	314-6	1	Suppressor, Distributor	14	151P316	1	Bracket, Gov. & Alternator
2	160A558	6	Nipple, Spark Plug	15	191-623	1	Pulley, Alternator
3	517-43	1	Plug, Dist. Vac. Advance	16	511-77	1	Belt, V. ( all Pierce Governors and Hoof Governors on plants with air cooled exhaust Manifold)
4	166B278	1	Coil, Ignition	16	511P78	1	Belt, V. ( Hoof governors on plants with water cooled exhaust manifold)
5	160B1045	1	Bracket, Coil	17	520A214	1	Stud, Linkage
5A	166A286	1	Screw, Coil Bracket	18	115-25	1	Nut, Linkage Stud
7	301A663	1	Spacer (Used on Early Models Only)	19	150A638	1	Joint, Ball
8	312A58	2	Condenser, (1) Coil, (1) Alter.	20	801-50	1	Screw, Hex - Gov.Mtg. (3/8-24 x 1")
9	167A1290	1	Cable, Coil to Dist.	21	307B514	1	Solenoid, Start
10	191P543	1	**Alternator (Motorola #70D44068A)	22	336A1199	1	Lead, Solenoid to Starter
11	191A571	1	Spacer, Alternator Mtg.	23	191-542	1	Regulator, Charge
12	191B578	1	Heat Shield, Alternator	24	191-544	1	Cable Alternator
13	151P312	1	*Governor	25	191-545	1	Resistor, Alternator
* Check Governor nameplate and order components from your nearest Hoof Products Co. dealer. Some early plants have pierce governors, order components from your nearest Pierce Governor Co. Dealer.				26	CABLE, SPARK PLUG		
** For components contact your nearest Motorola dealer or Motorola Automotive Product Inc., 9401 W. Grand Ave., Franklin Park, Illinois 60131.				167A1525			Cylinder #1
				167A1526			Cylinder #2
				167A1527			Cylinder #3
				167A1529			Cylinder #4
				167A1530			Cylinder #5
				167A1531			Cylinder #6



### COOLING, OIL DRAIN, AND EXHAUST GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	RADIATOR 130D660 130D624	1	Radiator Key 1 Key 2	13	505-101	2	Nipple, Pipe - Oil Drain - (Early Models Used Qty. of 3) Adapter, Oil Drain - Late Models
2	130D449	1	Cap, Radiator	13A	102A652	1	Elbow, Oil Drain
3	504-28	1	Valve, Rad. Drain	15	505-39	1	Valve, Oil Drain
4	130C352	1	Guard, Fan (R.H.)	16	504-30	1	Hose, Oil Drain
5	130C351	1	Guard, Fan (L.H.)	17	503-484	1	Hose, Oil Drain
6	130C355	1	Blade, Fan	18	503-131	1	Clamp, Hose - Oil Drain
7	BELT 511P75 511P74	1	Fan Water Pump	19	193A104	1	Element, Water Temp.
8	503P490	1	Hose, Lower - Rad.	20	193A178	1	Switch, Water Hi-Temp.
9	503P491	1	Hose, Upper - Rad.	21	193A108	1	Element, Oil Pressure
10	503-365	4	Clamp, Hose	22	309B64	1	Switch, Low Oil Pressure
11	145A67	1	Nut, Lock - Oil Drain	23	155B921	1	Tube, Exhaust
12	502-367	1	Seal, Oil Drain - Early Models	24	155A923	1	Gasket, Exhaust Tube
				25	155B456	1	Muffler
				26	155B467	1	Tube, Exh. Flexible
				27	505-32	1	Coupling, Exh. Tube
				28	191A581	1	Cover, Starter Hole
					512A51	1	Pulley, Water Pump

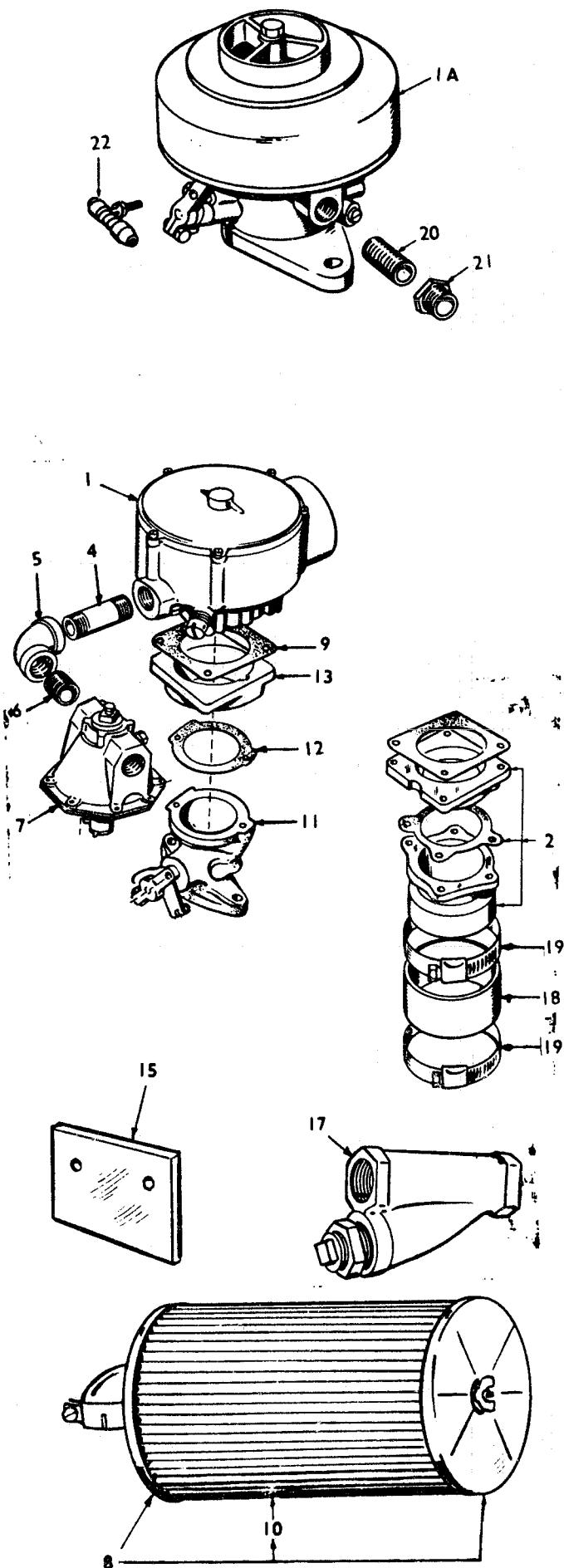
ENGINE REPLACEMENT - Furnish complete Model, Spec and Serial Number from ONAN Nameplate.

## **GAS AND GAS-GASOLINE FUEL SYSTEM GROUP (Optional Equipment)**

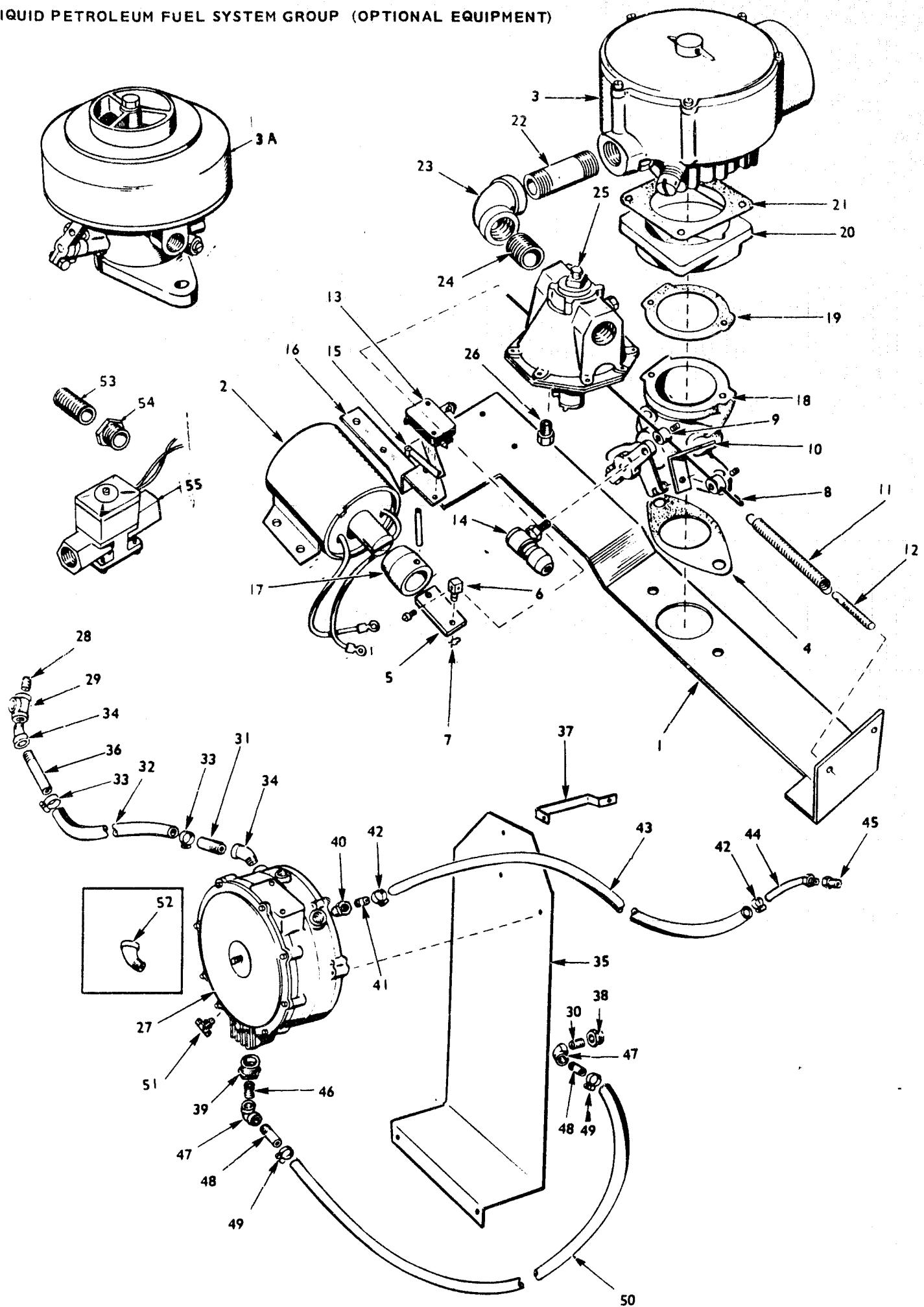
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	148P598	1	**Carburetor (Mixer), Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)(Impco # 200)
1A	148C643	1	**Carburetor (Mixer), Gas Only Plants - Begin Serial # 045915 (Impco # 125-29)
2	148P628	1	Adapter, Carb. - Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
4	505-84	1	Nipple, Gas Reg. (1/4 x 2 1/2") Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
5	505-132	1	Elbow, Gas Reg. (1/4" x 90°) Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
6	505-102	1	Nipple, Gas Reg. (1/4 x 1-3/8") Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
7	148P597	1	Regulator, Gas
8	140P851	1	Cleaner, Air - Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
9	*	1	Gasket, Carb. Adapter to Carb. - Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
10	140-871	1	Element, Air Cleaner - Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
11	141-585	1	Body, Throttle - Gas Only Plants Prior to Serial # 045915
12	148A198	1	Gasket, Throttle Body - Gas Only Plants Prior to Serial # 045915
13	148B595	1	Adapter, Body to Carburetor - Gas Only Plants Prior to Serial # 045915
15	149A638	1	Cover, Fuel Pump Hole - Gas Only Plants
17	149P624	1	Strainer, Fuel
18	503-542	1	Hose, Adapter - Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
19	503-465	2	Clamp, Adapter Hose - Gas-Gasoline Plants (Gas Only Plants Prior to Serial # 045915)
20	505-100	1	Nipple (1/2 x 1-1/8") Gas Only Plants - Begin Serial # 045915
21	505-21	1	Bushing, Reducer (1/4 to 1/2") Gas Only Plants - Begin Serial # 045915
22	150A638	1	Joint, Ball - Gas Only Plants - Begin Serial # 045915

- \* Order by description, giving complete Model, Spec and Serial Number.

- For components contact your nearest Impco Dealer or Impco Div., 16916 Gridley Place, Cerritos, California 90701.



LIQUID PETROLEUM FUEL SYSTEM GROUP (OPTIONAL EQUIPMENT)

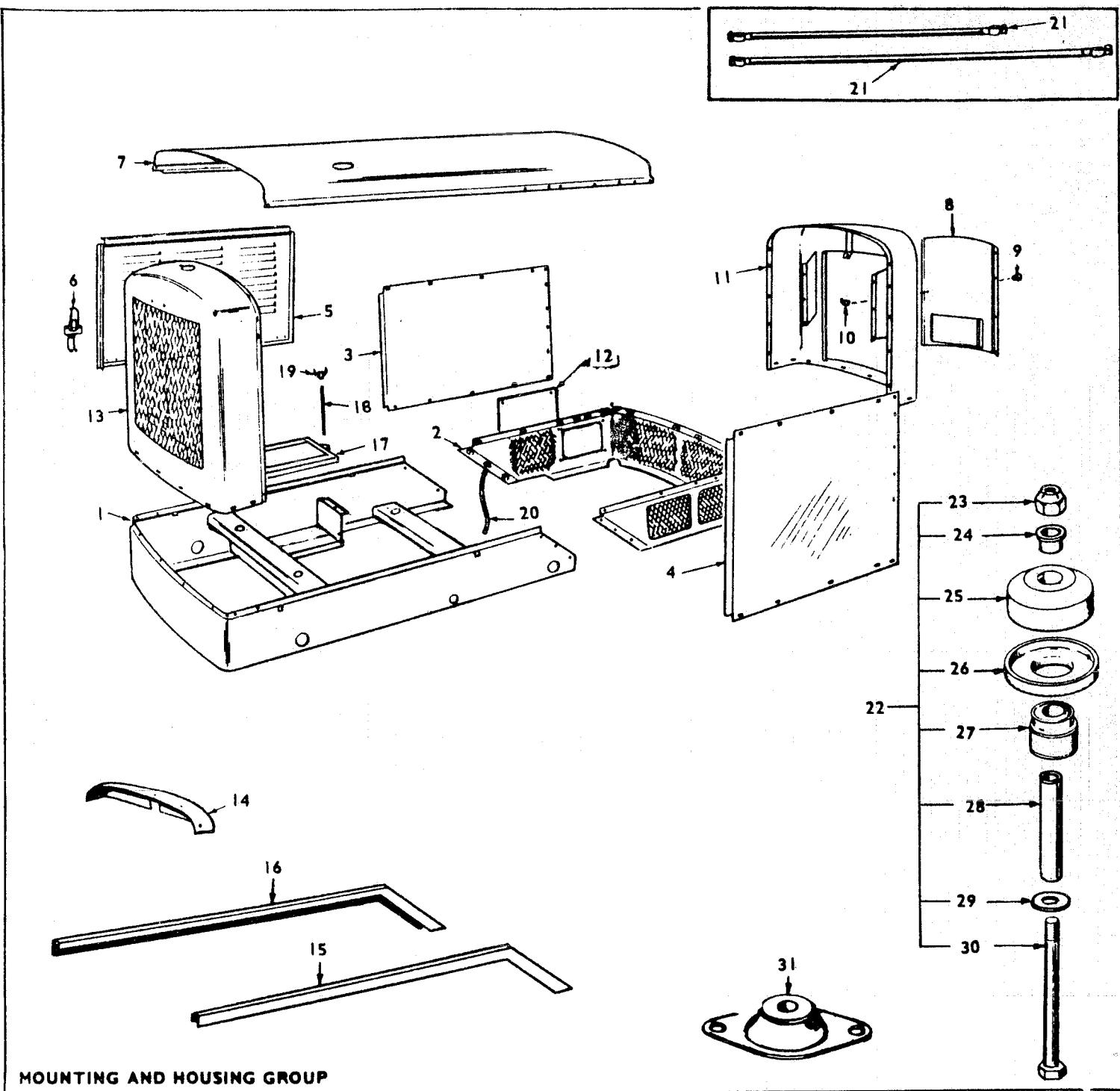


LIQUID PETROLEUM FUEL SYSTEM GROUP (OPTIONAL EQUIPMENT)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	145C182	1	Bracket, Sol. & Carb. Mtg. - Prior to Serial # 045915	25	148A637	1	Regulator, Gas - Primary - LPG Vapor Only - Beginning Serial # 045915
2	307B259	1	Solenoid, Anti Dieseling - Prior to Serial # 045915	26	148A107	1	Vent, Atmospheric - Primary
3	148P598	1	**Carburetor - Prior to Serial # 045915 (Impco # 200)	27	148C625	1	Reg. - Prior to Serial # 045915
3A	148C643	1	**Carburetor - Begin Serial # 045915 (Impco # 125-19)	28	505-101	2	Converter, LPG
4	145A120	1	Gasket, Throttle Body to Brkt. - Prior to Serial # 045915	29	505-60	1	Nipple(3/8 x 1)
5	145A164	1	Arm, Solenoid Extension - Prior to Serial # 045915	30	505-100	1	Tie(3/8")
6	152A155	1	Swivel, Choke Link - Prior to Serial # 045915	31	505-135	1	Nipple(1/2 x 1-1/8")
7	516-59	1	Pin, Cotter - Solenoid - Prior to Serial # 045915	32		1	Nipple, Half(3/8")
8	145A166	1	Link, Sol. to Throttle - Prior to Serial # 045915	33	503-183	2	Hose(11" of Bulk Hose # 503-386)
9	145A165	2	Stop, Throttle - Prior to Serial # 045915	34	505-119	2	Clamp, Hose(11/16 to 1-1/16")
10	145A163	1	Arm, Throttle - Prior to Serial # 045915	35	148B603	1	Elbow, Street(3/8 x 45°)
11	145A158	1	Spring, Throttle - Prior to Serial # 045915	36	505-125	1	Bracket, Converter Mtg.
12	150A96	1	Stud, Gov. Spd. Adj. - Prior to Serial # 045915	37	148A604	1	Nipple, Pipe(3/8 x 6")
13	309A155	1	Switch, Micro - Prior to Serial # 045915	38	505-21	1	Brace, Converter Mtg. Brkt.
14	150A638	1	Joint, Ball - Prior to Serial # 045915	39	505-129	1	Bushing, Red.(3/4 x 1/2")
15	309P133	1	Actuator - Prior to Serial # 045915	40	505-17	1	Bushing, Red.(1 x 3/4")
16	309A131	1	Bracket, Micro Switch - Prior to Serial # 045915	41	505-10	1	Bushing, Red. 3/8 x 1/4")
17	309A132	1	Cam, Solenoid - Prior to Serial # 045915	42	503-32	2	Nipple, Half(1/4 x 1")
18	141-585	1	Body Assy., Throttle - Prior to Serial # 045915	43		1	Clamp, Hose(7/8")
19	148A198	1	Gasket, Throttle Body - Prior to Serial # 045915	44	130A678	1	Hose(12" of Bulk # 503-110)
20	148B595	1	Adapter, Body to Carburetor - Prior to Serial # 045915	45	502-103	1	Line
21	*	1	Gasket, Adapter to Carburetor - Prior to Serial # 045915	46	505-102	1	Connector
22	505-84	1	Nipple, Carb. Inlet(1/4 x 2-1/2") - Prior to Serial # 045915	47	505-132	2	Nipple, Pipe(3/4 x 1-3/8")
23	505-132	1	Elbow, Carb. Inlet(1/4" x 90°)	48	505-324	2	Elbow, Pipe(3/4 x 90°)
24	505-102	1	Nipple, Carb. Inlet to Primary Reg.(1/4 x 1") - 2 used on LPG Vapor Beginning Serial # 045915	49	503-189	2	Nipple(1/4 x 2") - 3 used Begin Serial # 045915
				50		1	Clamp, Hose(1-3/16 to 1-1/2")
				51	504-5	1	Hose(29" of Bulk Hose # 503-249)
				52	505-11	1	Valve, Drain
				53	505-100	1	Elbow, Street(1/4 x 90°)
				54	505-21	1	Nipple(1/2 x 1-1/8") - Begin Serial # 045915
				55	307P312	1	Bushing, Reducer(3/4 x 1/2") - Begin Serial # 045915
							Valve, Solenoid - Begin Serial # 045915

\* Refer to factory, giving complete Model, Spec and Serial Numbers.

\*\* For components contact your nearest Impco Dealer or Impco Div., 16916 Gridley Place, Cerritos, California, 46011.

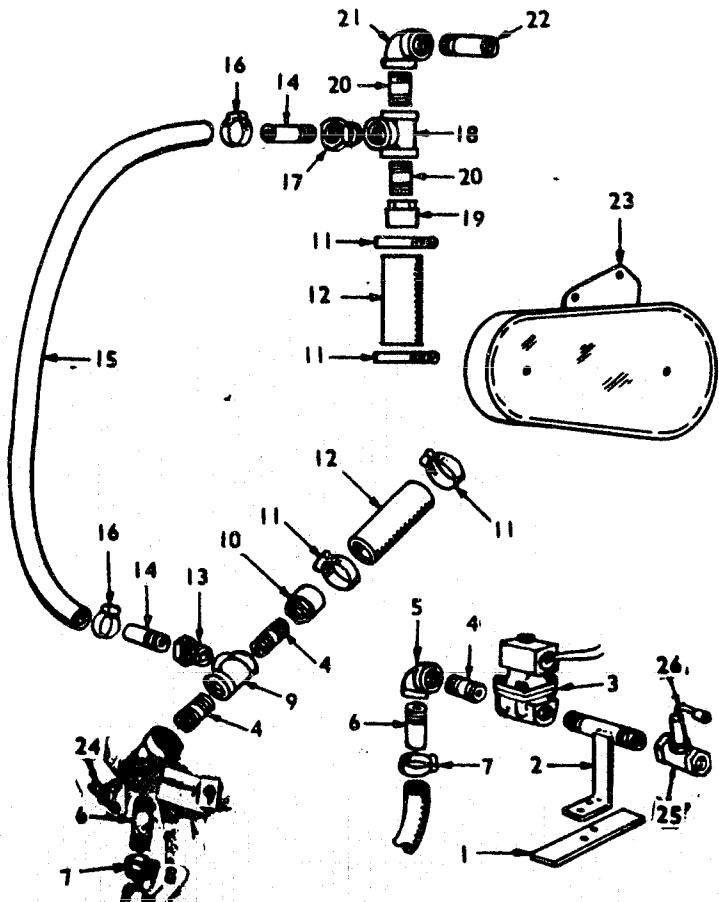


MOUNTING AND HOUSING GROUP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	403D749	1	Chassis, Front
2	403D697	1	Chassis, Rear (Housed)
3	405C1378	1	Panel, Left Side (Housed)
4	405C1379	1	Panel, Right Side (Housed)
5	405C1383	2	Panel, Door Side (Housed)
6	406A105	4	Clamp, Door (Housed)
7	405D1380	1	Panel, Top (Housed)
8	405B932	1	Panel, Rear Door (Housed)
9	406-2	1	Knob, Door (Housed)
10	406A88	1	Catch, Door (Housed)
11	405D1381	1	Panel, Rear (Housed)
12	403A373	1	Panel, Chassis (Housed)
13	405D1382	1	Panel, Front
14	405C1409	1	Extension Rad. Hood (Unhsd.)
15	403C702	1	Trim, Chassis - R.H. (Unhsd.)
16	403C703	1	Trim, Chassis - L.H. (Unhsd.)
17	416B338	1	Frame, Battery Hold-down

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
18	520A663	2	Stud, Battery Hold-down
19	865-7	2	Wing Nut, Battery Hold-down
20	336A476	1	Cable, Ground
21	CABLE, BATTERY		
	416A49	1	14" Long
	416A18	1	17" Long
22	402A338	2	Mounting Assembly, Engine End - Includes Parts Marked*
23	870-68	2	*Nut, Huglock (7/16-20)
24	402A337	2	*Spacer, Engine Mount
25	402A10	2	*Mount, Rubber (Upper)
26	402A12	2	*Cup, Metal
27	402A11	2	*Mount, Rubber (Lower)
28	403A633	2	*Spacer, Mount
29	526-141	2	*Washer, Flat
30	801-81	2	*Cap Screw, Hex
31	402A209	2	Mount, Vibration, Gen. End

**CITY WATER COOLING GROUP (Without Heat Exchanger and Water Cooled Manifold) - OPTIONAL EQUIPMENT**

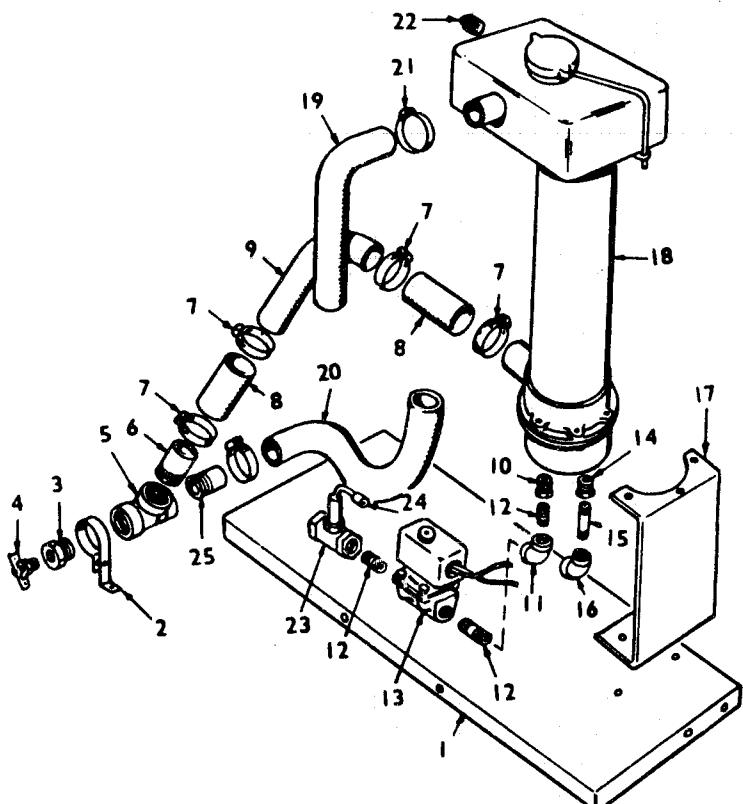


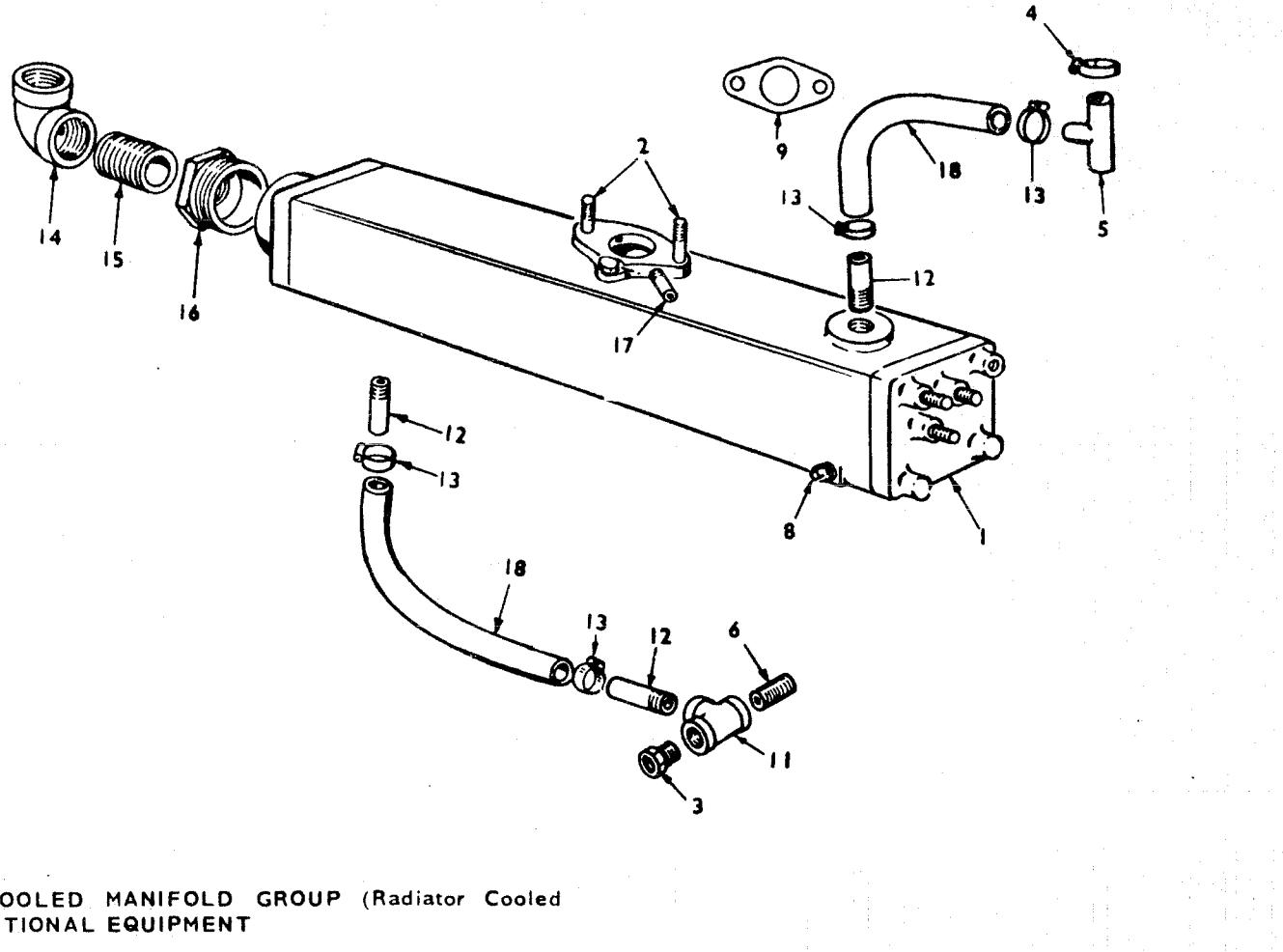
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	130C499	1	Backplate, Nipple to Bracket
2	110A526	1	Nipple & Bracket Assy.
3	307-833	1	Valve, Water
4	505-100	3	Nipple, Pipe-Close (1/2")
5	505-40	1	Elbow, Pipe (1/2" x 90°)
6	505A185	2	Nipple, Half (1/2 x 1-1/2")
7	503-189	2	Clamp, Hose
8		1	Hose (11" Piece of Bulk Hose # 503P191)
9	505-108	2	Tee (1/2")
10	110A576	1	Adapter
11	503-365	4	Clamp, Hose
12		2	Hose (3" Piece of Bulk Hose # 503-356)
13	505-18	1	Bushing, Pipe-Reducer (1/2 x 1/4")
14	505-10	2	Nipple, Half (1/4 x 1")
15		1	Hose (30" Piece of Bulk Hose # 503P110)
16	503P32	2	Clamp, Hose
17	505-20	1	Bushing, Reducer (3/4 x 1/4")
18	505-166	1	Tee, Pipe (3/4")
19	110A1543	1	Adapter
20	505-102	2	Nipple, Pipe-Close (3/4")
21	505-132	1	Elbow, Pipe (3/4" x 90°)
22	505A324	1	Nipple, Half (3/4 x 2")
23	130B782	1	Guard, Belt (Unhoused Plants)
24	504-3	1	Valve, Drain
25	504-19	1	Valve, Lockshield
26	504-20	1	Key, Lockshield Valve

**HEAT EXCHANGER GROUP - OPTIONAL EQUIPMENT (EARLY MODELS)**

NOTE: See Separate Group for Late Models.

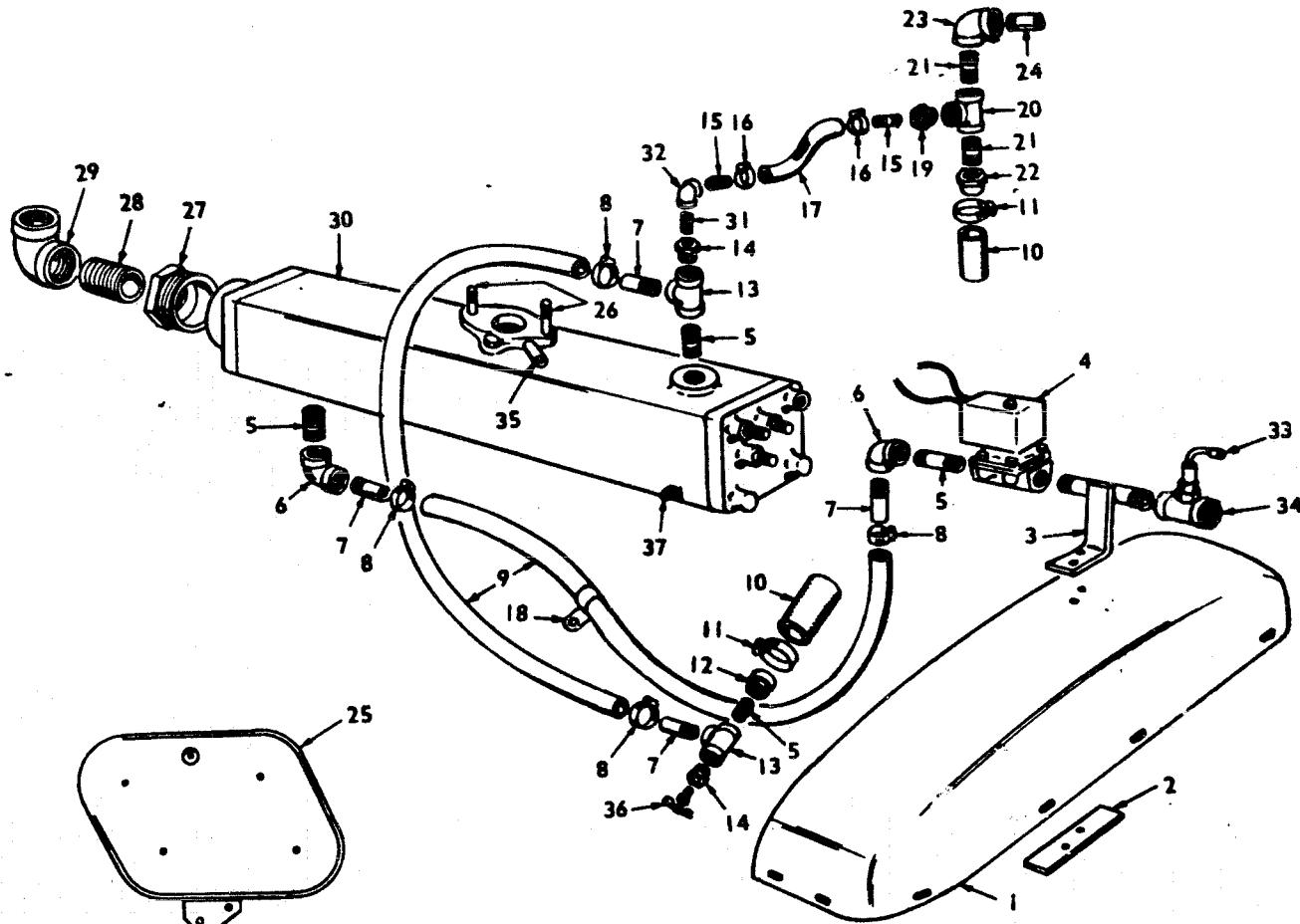
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	130C499	1	Base
2	130A522	1	Bracket
3	505-128	1	Bushing, Reducer (1-1/4 x 3/8")
4	504-28	1	Valve, Drain
5	505-249	1	Tee, Pipe (1-1/4")
6	505A443	1	Nipple, Half (1-1/4 x 1-1/4")
7	503P4	4	Clamp, Hose
8	503A3	3	Hose
9	130A348	1	Tube
10	505-22	1	Bushing, Reducer (1 x 1/2")
11	505-40	1	Elbow, Pipe (1/2" x 90°)
12	505-100	3	Nipple, Pipe-Close (1/2")
13	307A833	1	Valve, Water
14	505-129	1	Bushing, Reducer (1 x 3/4")
15	505-84	1	Nipple, Pipe (3/4 x 2-1/2")
16	505-132	1	Elbow (1/4" x 90°)
17	130C642	1	Support
18	130C505	1	Exchanger, Heat
19	503B332	1	Hose
20	503P490	1	Hose
21	503P365	4	Clamp, Hose
22	505-130	1	Plug, Pipe (3/4")
23	504-19	1	Valve, Lockshield
24	504-20	1	Key, Lockshield Valve
25	505-384	1	Nipple, Half (1-1/4 x 2")





WATER COOLED MANIFOLD GROUP (Radiator Cooled Plant) - OPTIONAL EQUIPMENT

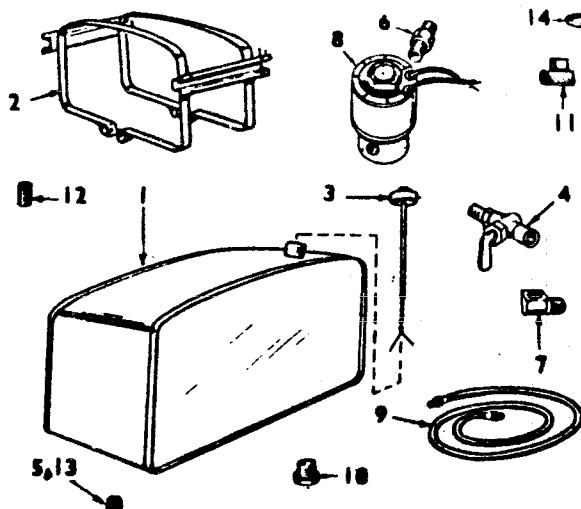
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	154P1062	1	Manifold, Water Cooled	15	505-172	1	Nipple, Exhaust (2 x 2")
2	520A311	2	Stud, Carburetor Mtg. to Manifold	16	505-207	1	Bushing, Reducer - Exhaust (2-1/2 x 2")
3	505-369	1	Bushing, Reducer (1/2 x 1/4")	17	505-271	1	Nipple, Pipe (1/4 x 3-1/2")
4	503-269	2	Clamp, Radiator Hose	18	505-191	1	Hose (28 Piece of Bulk Hose #503-191)
5	505-517	1	Adapter, Hose	511P78		1	Belt, Governor
6	505-106	1	Nipple, Pipe (1/2 x 1-1/2")	520A515		1	Link, Governor
8	505-57	1	Plug, Pipe (1/8")	301B2222		1	Backplate, Control
9	145A120	1	Gasket, Carburetor	301A458		4	Spacer, Control Backplate
11	505-108	1	Tee, Pipe (1/2")	GASKET, EXHAUST MANIFOLD MOUNTING			
12	505-185	3	Nipple, Pipe (1/2 x 1-1/2")	154P1296		1	Rear
13	503-189	4	Clamp, Hose	154P1297		1	Center
14	505-175	1	Elbow, Exhaust (2" x 90°)	154P1298		1	Front
				154P1299		2	Gasket, Manifold End Cap



CITY WATER COOLING GROUP (With Water Cooled Manifold) - UNHOUSED PLANTS - OPTIONAL EQUIPMENT

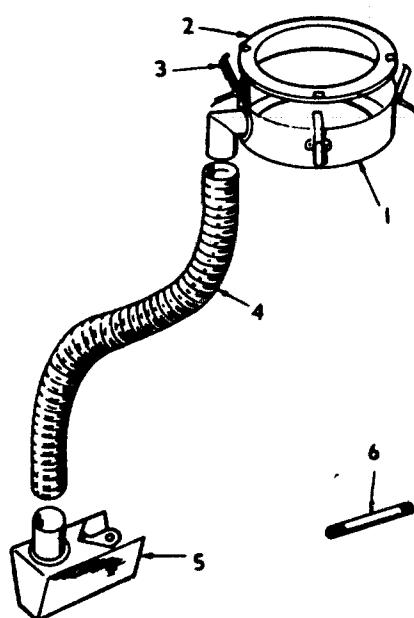
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	403C384	1	Cover, Chassis	20	505-166	1	Tee, Pipe(3/4")
2	154A525	1	Backplate	21	505-102	2	Nipple, Pipe-Close(3/4")
3	110A526	1	Nipple & Bracket	22	110A1543	1	Adapter
4	307A833	1	Valve, Water	23	505-132	1	Elbow, Pipe(3/4")
5	505-100	4	Nipple, Pipe-Close(1/2")	24	505A324	1	Nipple, Pipe-Half(3/4")
6	505-40	2	Elbow, Pipe (1/2 x 90°)	25	130C782	1	Guard, Belt
7	505A185	4	Nipple, Half(1/2 x 1-1/2")	26	520A311	2	Stud, Carb. Mtg. to Manifold
8	503-189	4	Clamp, Hose	27	505-207	1	Bushing, Reducer (2 1/2 x 2")
9		As Req.	Hose(63" of Bulk Hose # 503P191)	28	505-172	1	Nipple, Close (2 x 2")
10		2	Hose(3" Piece of Bulk Hose # 503-356)	29	505-201	1	Elbow, Street (2" x 90°)
11	503-365	4	Clamp, Hose	30	154P1062	1	Manifold, Water Cooled
12	110A576	1	Adapter	31	505-99	1	Nipple, Pipe-Close(1/2")
13	505-108	2	Tee, Pipe(1/2")	32	505-38	1	Elbow, Pipe(1/2" x 90°)
14	505-18	2	Bushing, Reducer(1/2 x 1/4")	33	504-20	1	Key, Lockshield
15	505A10	2	Nipple, Half(1/4 x 1")	34	504-19	1	Valve, Lockshield
16	503P32	2	Clamp, Hose	35	505-271	1	Nipple, Pipe(1/4 x 3 1/2")
17		1	Hose(14" Piece of Bulk Hose # 503P110)	36	504-3	1	Valve, Drain
18	148A274	1	Bracket	37	505-57	1	Plug, Pipe(1/8")
19	505-20	1	Bushing, Reducer(3/4 x 1/4")	301B2222		1	Backplate, Control
				301A458	4		Spacer, Control
				520A515			Stud, Gov. Linkage
				511P78			Belt, Governor
							GASKET, EXHAUST MANIFOLD MOUNTING
				154P1296	1		Rear
				154P1297	1		Center
				154P1298	1		Front
				154P1299	1		Gasket, Manifold End Cap

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	159D490	1	Tank, Fuel
2	159D489	1	Strap, Fuel Tank
3	159B512	1	Cap and Indicator
4	504-4	1	Valve, Shut-off
5	505-57	1	Plug, pipe 1/8"
6	502-82	1	Nipple, Hex
7	502-2	1	Elbow, Inv. Male
8	307P565	1	Valve, Solenoid-Fuel
9	501B10	1	Line, Flex Fuel (42")
10	502-3	1	Connector, Inv. Male
11	505-59	1	Tee, 1/8"
12	505-98	1	Nipple, 1/8 x 3/4"
13	505-274	1	Plug, 1/8"
14	159P751	1	Gasket, Cap & Indicator



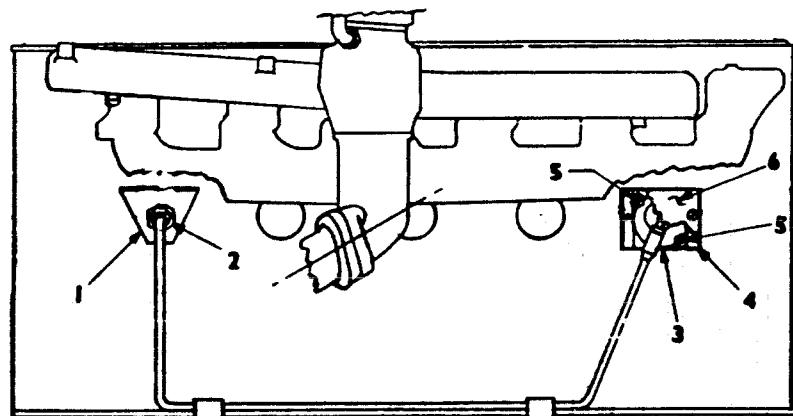
MOUNTED FUEL TANK GROUP (Optional Equipment)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	133C201	1	Duct, Carburetor Heater
2	133B202	1	Ring, Carburetor Heater
3	406A105	3	Fastener
4		1	Hose (12" of Bulk Hose #503P151)
5	133C203	1	Adapter, Carburetor Air Heater
6	505-217	1	Nipple (1/4 x 4-1/2")



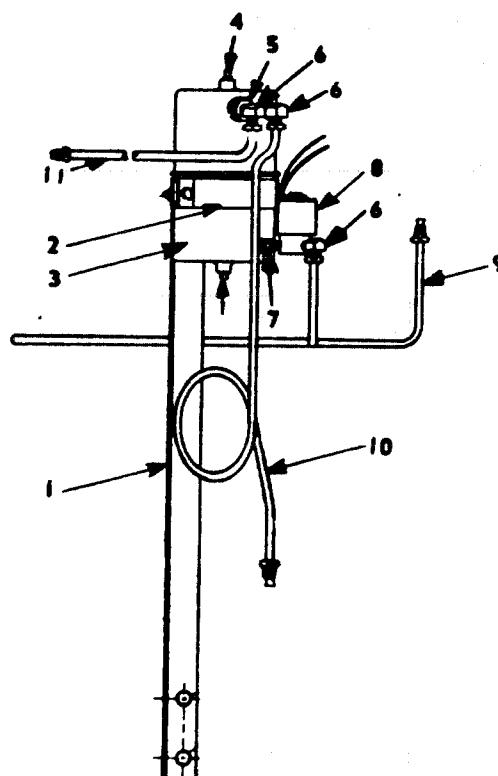
AIR HEATER GROUP (OPTIONAL EQUIPMENT)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	333A117	1	Shield, Heat
2	333P118	1	Heater, Engine Water
3	309P29	1	Switch, Thermostat
4	333A12	1	Box, Therm. Switch
5	520A446	2	Stud, Therm. Switch Mtg.
6	333A13	1	Cover, Therm. Switch Box

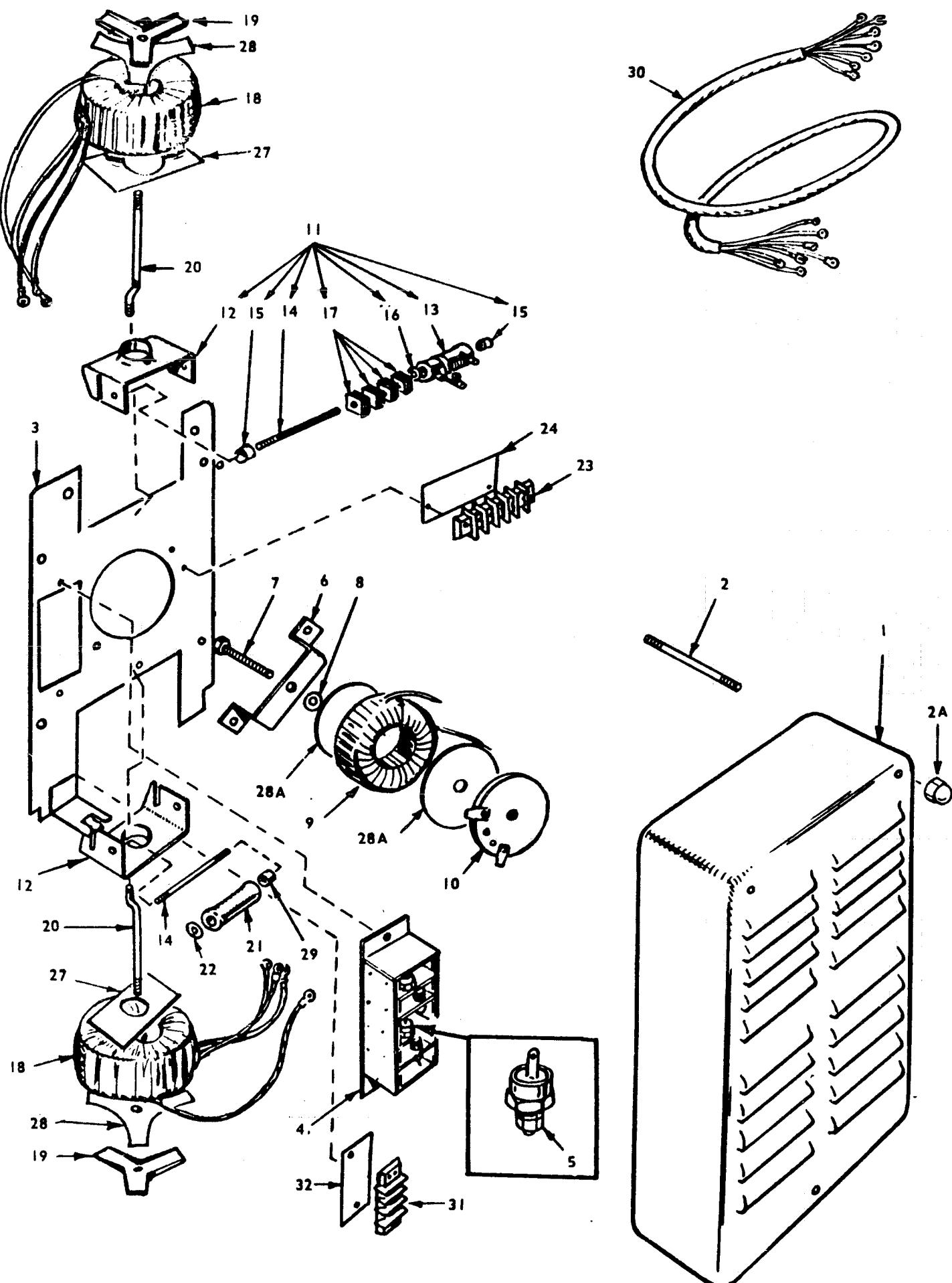


WATER JACKET HEATER GROUP (Optional Equipment)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	BRACKET, TANK MOUNTING		
	159B861	1	One Quart
	159B876	1	Two Quart
2	CLAMP, TANK MOUNTING		
	159A680	1	One Quart
	159A875	1	Two Quart
3	TANK, RESERVOIR		
	159B294	1	One Quart
	159B746	1	Two Quart
4	505-57	2	Plug
5	159A705	1	Reducer, Restricted
6	502-2	3	Elbow, Male
7	502-82	1	Nipple, Sol. Valve to Tank
8	307P565	1	Valve, Solenoid (12-V)
9	159A859	1	Line, Fuel - Tank to Carb.
10	159A860	1	Line, Fuel - Tank to Fuel Pump
11	501A9	1	Line, Flex-Fuel



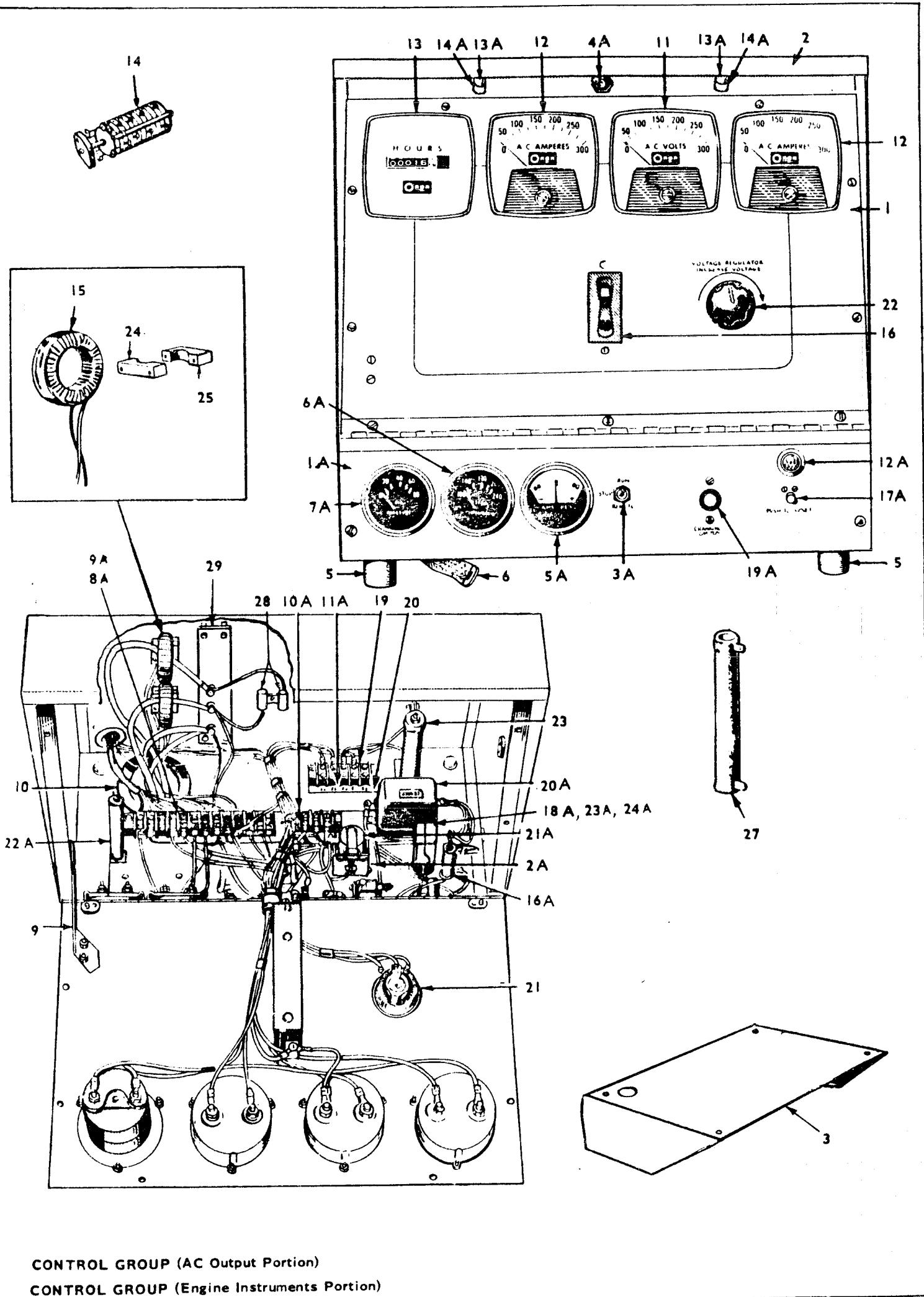
RESERVOIR (DAY) TANK GROUP (Optional Equipment)



GENERATOR GROUP (Exciter Portion)

NOTE: Parts Key 1 used 07SX1NIC and 07SX51NIC. Key 2 used 102SX1NIB and 102SX51NIB. Check Onan nameplate for correct Magneclite number. Select the part number column that applies to your plant.

REF. NO.	QTY. USED	PART DESCRIPTIONS	PART NUMBER			
			07SX1NIC	102SX1NIB	07SX51NIC	102SX51NIB
	1	Exciter Complete (Less Cover)	209-16	209-21	209-19	209-23
1	1	Cover, Exciter	234D106	234D106	234D106	234D106
2	3	Stud, Exciter Cover Mtg..	520A575	520A575	520A575	520A575
2A	3	Nut, Exciter Cover Mtg..	866-1	866-1	866-1	866-1
3	1	Panel Only, Exciter	234D105	234D105	234D105	234D105
4	1	Rectifier Assy., Power	305B200	305B212	305B200	305B212
5	4	Rectifier Only, Power (Field)	305P239	305P244	305P239	305P244
6	1	Bracket Only, Overspeed Switch	150B733	150B733	150B733	150B733
7	1	Stud & Contact Point Assy., Voltage Control Reactor Mtg.	150A772	150A772	150A772	150A772
8	2	Fibre Washer (1/4 x 3/4 x 1/16")	508-18	508-18	508-18	508-18
8	1	Fibre Washer (1/4 x 3/8 x 1/32")	508-29	508-29	508-29	508-29
9	1	Reactor, Voltage Control	315A74	315A74	315B73	315B73
10	1	Block, Terminal - Volt. Cont. Reactor	332A687	332A687	332A687	332A687
11	1	Rectifier Assy., Includes Parts Marked*	305B202	305B202	305B202	305B202
12	2	*Bracket, Gate Reactor Mtg. (1 Only in 305B202)	234B60	234B60	234B60	234B60
13	1	*Resistor, Control, Adj. (150-Ohm, 25-Watt)	304A5	304A5	304A5	304A5
14	2	*Stud, Res. & Rect. Mtg. (1 Only in 305B202)	520A579	520A579	520A579	520A579
15	2	*Spacer, Res. & Rect. to Stud	232A1473	232A1473	232A1473	232A1473
16	2	*Washer, Adj. Resistor Centering	304A14	304A14	304A14	304A14
17	4	*Rectifier, Reg. Control	305P208	305P208	305P208	305P208
18	2	Reactor, Gate	315A47	315A57	315A59	315A63
19	2	Retainer, Gate Reactor	234B62	234B62	234B62	234B62
20	2	Stud, Gate Reactor Mtg.	232A1361	232A1361	232A1361	232A1361
21	1	Resistor, Fixed (200-Ohm, 50-Watt)	304A21	304A21	304A21	304A21
22	2	Washer, Fixed Res. Centering	304A15	304A15	304A15	304A15
23	1	Block, Term. (5-Place)	332A604	332A604	332A604	332A604
24	1	Strip, Blk. Marker (5-Place)	332A678	332A678	332A678	332A678
27	2	Insulation, Gate Reactor to Mtg. Bracket	232A1547	232A1547	232A1547	232A1547
28	2	Insulation, Gate Reactor to Retainer	232A1546	232A1546	232A1546	232A1546
28A	2	Insulation, Volt. Cont. Reactor Mtg.	232A1548	232A1548	232A1548	232A1548
29	2	Spacer, Fixed Resistor to Stud	232A1474	232A1474	232A1474	232A1474
30	1	Wiring Harness	338B237	338B237	338B237	338B237
31	1	Block, Term. (4-Place)	332A537	332A537	332A537	332A537
32	1	Strip, Marker	332A686	332A686	332A686	332A686

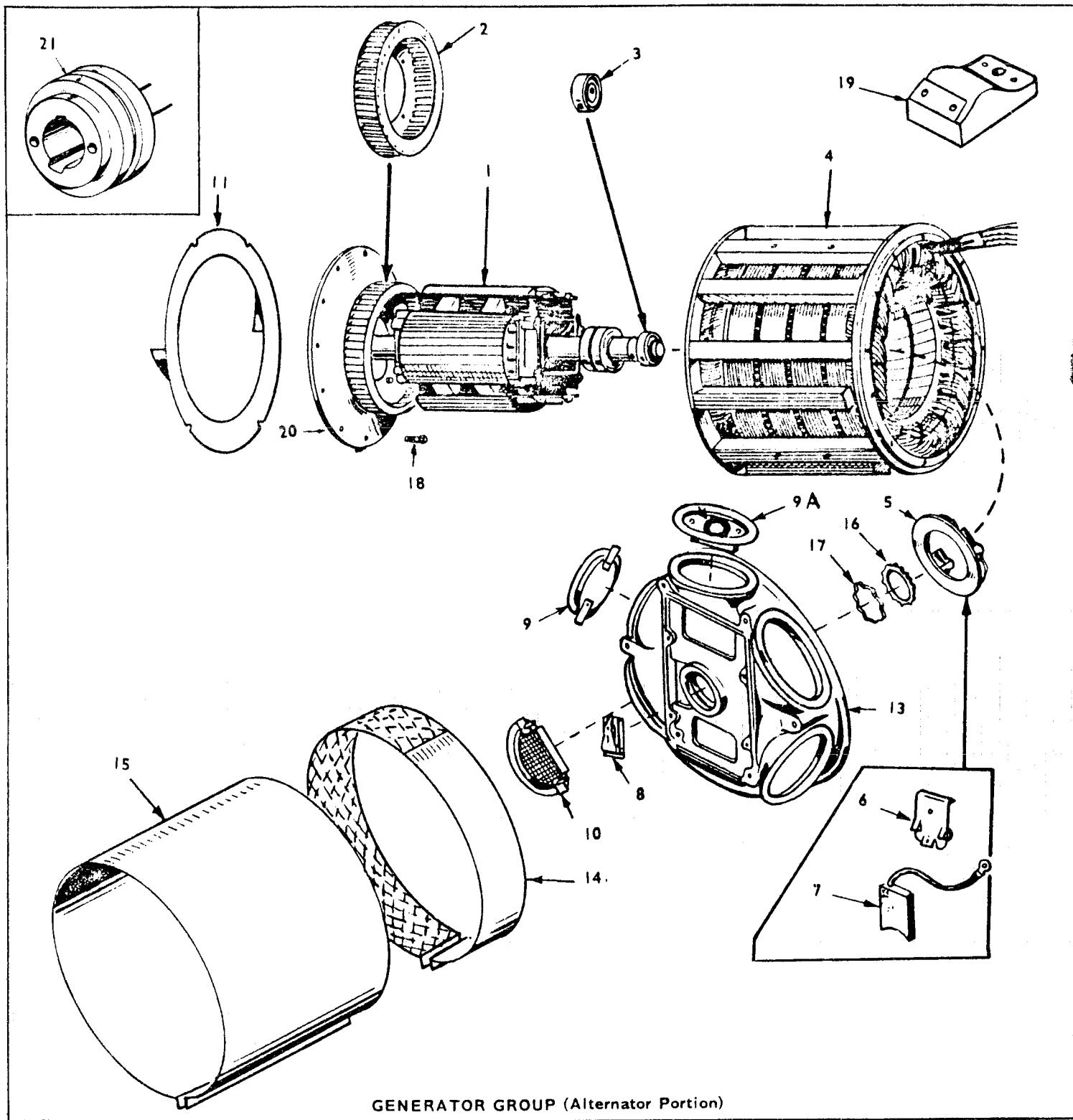


**CONTROL GROUP (AC Output Portion)**

### **CONTROL GROUP (Engine Instruments Portion)**

NOTE: Unhoused plants with optional Meter Panel, use parts marked (£) as listed for Housed Plants.  
**CONTROL GROUP (AC Output Portion)**

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	
1	PANEL ONLY - UPPER CONTROL 301C1810	1	£1-Phase - Housed Plants	19	332A604	1	Block, Term. (5-Place)	
	301C1814	1	£3-Phase - Housed Plants	20	STRIP, TERMINAL BLOCK MARKER 332A689	1	Marked 32,33,34,E1,E2, For 120/240-V 1-Ph., 120/208-V 3-Ph. & 120/240-V 3-Ph.	
2	301D2177	1	All Unhoused Plants Box Only, Control	332A690	1	Marked 32,33,34,35,36, For 277/480-V 3-Ph., 220/380-V 3-Ph. 600-V 3-Ph., & 347/600-V 3-Ph.		
3	301B2984	1	Bracket, Cont. Box Mtg., Unhoused Plants	21	303-97	1	Rheostat, Volt. Reg.	
5	402-78	4	Mount, Rubber - Cont. Box Mtg. Unhoused Plants	22	303-32	1	Knob, Rheostat	
6	337A44	1	Strap, Grd. - Unhoused Plants	23	304A479	1	Resistor, Volt. Reg.	
9	301A1914	1	Bracket, Panel Stop	24	302A235	3	£Clamp, Current Trans. Mtg., Inside Half (Note: Use 2 for 1-Ph.) Housed Plants	
10	508-63	1	Grommet (For 2-3/4" Hole)	25	302A236	3	£Clamp, Current Trans. Mtg., Outside Half (Note: Use 2 for 1-Ph.) Housed Plants	
11	VOLTMETER, AC (Check Scale and Select According to Rating), 302P421	1	Voltmeter Scale 0-300	27	304A536	1	£Resistor, Fixed (9000-Ohm, 50-Watt) Off Running Time Meter, 600-V 3-Ph., Hsd. Plts.	
	302P422	1	Voltmeter Scale 0-600	28	CONDENSER, OUTPUT TERMINAL SUPPRESSION 312A58	2	120/240-V 1-Ph.	
	302P423	1	Voltmeter Scale 0-750		312A58	3	120/208-V 3-Ph.	
12	AMMETER, AC - HOUSED PLANTS (Check Scale and Select According to Rating) NOTE: 1-Phase use 2.		302P406		312A58	4	120/240-V 3-Ph.	
			302P408		312A145	3	277/480-V 3-Ph. & 220/380-V 3-Ph.	
			302P410		29	332A513	1	Block, Term., Output
			302P411		301B2985	1	Cover, Lead - Gen. End	
			302P412		301B2986	1	Cover, Lead - Eng. End	
			302P413					
13	AMMETER, RUNNING TIME - HOUSED PLANTS 60-Cycle Plants 302P465	1	120/240-V, 1-Ph., 120/208-V 3-Ph., 120/240-V 3-Ph., 600-V 3-Ph., & 347/600-V 3-Ph.					
			302P467					
			302P468					
			302P469					
			302P470					
14	308-22	1	Switch, Volt. & Current Sel., Housed Plants, 3-Ph.					
15	TRANSFORMER, CURRENT, HOUSED PLANTS, (Check Transformer Nameplate, Select According to Rating)		302B76	3				
			302B76	3	1A	301C2124	1	Panel Only, Lower Cont.
					2A	301A1685	1	Bracket, Time Delay Relay Mounting
			302B78	3	3A	308P138	1	Switch (Run-Stop-Remote)
			302B79	3	4A	308-2	1	Switch, Panel Light
			302B106	3	5A	302A61	1	Ammeter, Charge (30-0-30)
			302B209	2	6A	193B106	1	Gage, Water Temp.
16	BREAKER, CIRCUIT 320B17	1	Key 1		7A	193B107	1	Gage, Oil Pressure
	320B170	1	Key 2, 1-Ph. (18-Amp)		8A	332A795	1	Block, Term. (16-Place)
	320B2	1	Key 2, 3-Ph. (15-Amp)		9A	332A862	1	Strip, Marker (4 through 19)
				10A	332A611	1	Block, Term. (3-Place)	
				11A	332A762	1	Strip, Marker (Remote, BT, Ground)	
				12A	322P69	1	Receptacle Assy., Pilot Light	
				13A	322P72	2	Receptacle, Panel Light	
				14A	322-4	3	Bulb, (2) Panel (1) Pilot	
				16A	304A192	1	Resistor, Fixed (3-Ohm, 10-W)	
				17A	307A655	1	Relay, Emergency Latch	
				18A	307P819	1	Relay, Start-Disconnect	
				19A	320A104	1	Limiter, Cranking	
				20A	307B597	1	Relay, Fuel Solenoid	
				21A	307A388	1	Relay, Time Delay, Low Oil Pressure Switch	
				22A	304A45	1	Resistor, Fixed (4-Ohm, 50-W)	
				23A	307P778	1	Spring, Relay Hold-down	
				24A	323P52	1	Socket, Relay	



GENERATOR GROUP (Alternator Portion)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTIONS
1	*	1	Rotor Assy., Wound - Includes Brg., Blower & Drive Assy.	10	232B1253	2	Cover, End Bell Openings (Screened)
2	205B68	1	Blower	11	234C175	1	Scroll, Air
3	510P63	1	Bearing	13	211E131	1	Bell, End
4	*	1	Stator Assy., Wound	14	234C174	1	Band, Gen. - Front (Narrow)
5	212C248	1	Rig Assy., Brush	15	BAND, GENERATOR - REAR (Wide)		
6	212B1105	4	Spring, Brush	234C176		1	1-Phase Plants, Key 1
7	214A56	4	Brush	234C173		1	3-Phase Plants, Key 1
8	150A717	1	Switch Assy., Overspeed	234C201		1	1-Phase Plants, Key 2
9	232B1254	2	Cover, End Bell, Open. (Plain)	234C178		1	3-Phase Plants, Key 2
9A	COVER, END BELL OPENINGS (W/Lead Hole) - INCLUDES GROMMET			16	232A1186	1	Holder, Brg. (Anti-Rotation)
234C226	1	1-Phase Plants		17	232A1187	1	Spring, Brg. Holder
234B20	1	3-Phase Plants		18	815A292	6	Bolt, Shoulder (5/16-18")
* - Order by description, giving complete Model and Serial Number (ONAN Nameplate).				19	232C1556	2	Pad, Generator Mtg.
				20	232B1820	1	Disc. Drive
				21	204A83	1	Collector Ring AC

# **SPECIAL PARTS LIST**

## **FOR EK-EM SERIES**

### **PENNSYLVANIA APPROVED**

### **GENERATING PLANTS**

Refer first to this list for Pennsylvania Approved plants. Parts not in this list refer to the main parts list (Key 1 for EK and Key 2 for EM). When referring to the main parts list, reference to Spec. letter or voltage also applies to these plants.

These plants are recognized by the numbers 30 (Gasoline Fuel), 31 (Gaseous Fuel), or 131 (Liquid Petroleum Fuel) appearing in the model. These numbers may appear just before or after the diagonal line (/). The number appearing after the diagonal line signifies a standard Pennsylvania Approved plant (Example: 30EK-4R8/31B). With the addition of optional features the number 8 (signifies unhoused plants) before the diagonal line is deleted in favor of the number 30, 31, or 131 (Example: 30EK-4R31/961B).

The Specification Letter advances (A to B, B to C, etc.) with manufacturing changes.

Parts in this list are not illustrated.

**COOLING, OIL DRAIN AND EXHAUST GROUP (Special List) - SPEC A ONLY**

PART NO.	QTY. USED	PART DESCRIPTIONS
191A628	1	Cover, Starter Hole
501-16	1	Line, Oil - To Gage
130A666	1	Arm, Idler Pulley
130B557	1	Pulley, Idler
130A556	1	Shaft, Idler Pulley
510-25	1	Bearing, Idler Pulley
518P210	1	Ring, Ret. - Idler Pulley
130A668	1	Spacer, Idler Pulley
130A667	1	Spacer, Idler Pulley Arm Mtg.

**GAS AND GAS-GASOLINE FUEL SYSTEM GROUP - BEGIN SPEC B**

PART NO.	QTY. USED	PART DESCRIPTION
307P836	1	Valve, Solenoid
149P752	1	Strainer, Fuel

**GOVERNOR, ALTERNATOR, & IGNITION GROUP - BEGIN SPEC B**

191B665	1	**Alternator, Charge (Motorola #70D44039B)
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**MOUNTING AND HOUSING GROUP (Special List)**

PART NO.	QTY. USED	PART DESCRIPTIONS
416A37	2	Cable, Battery - 48" - Spec A Only
416A133	5	Cable, Battery-7-1/2" - Spec A Only
416P325	1	Hydrometer

**GENERATOR GROUP (Alternator Portion)(Special List) - SPEC A ONLY**

PART NO.	QTY. USED	PART DESCRIPTIONS
212C194	1	Rig Assy., Brush
214A46	4	Brush
211E96	1	Bell, End

**GENERATOR GROUP (Rotating Exciter Portion) (Special List) - SPEC A ONLY**

PART NO.	QTY. USED	PART DESCRIPTIONS
*	1	Armature
*	1	Frame Only
212C1143	1	Holder, Brush Rig
*	4	Pole Shoe, Exciter
*	1	Coil Ass.; (Set of 4 Coils)
515-130	1	Key, Exc. Armature
212C197	1	Rig Assembly, Brush
212B1011	4	Spring, Brush
214A18	4	Brush
211C92	1	Cover, Exciter
150A626	1	Bracket Overspeed Switch
		Contact (Incl. Contact)
336A629	2	Jumper, Brush Rig
232A1205	1	Washer, Centering - Arm. Thru
		Screw
150A548	1	Switch Assy., Overspeed

\* - Order by description giving, complete Model, Spec. and Serial Number.

\*\* - For components contact your nearest Motorola dealer or Motorola Automotive Prod. Inc., 9401 W. Grand Ave., Franklin Park, Illinois 60131

**AUTOMATIC VOLTAGE REGULATOR GROUP (Special List) - SPEC A ONLY**

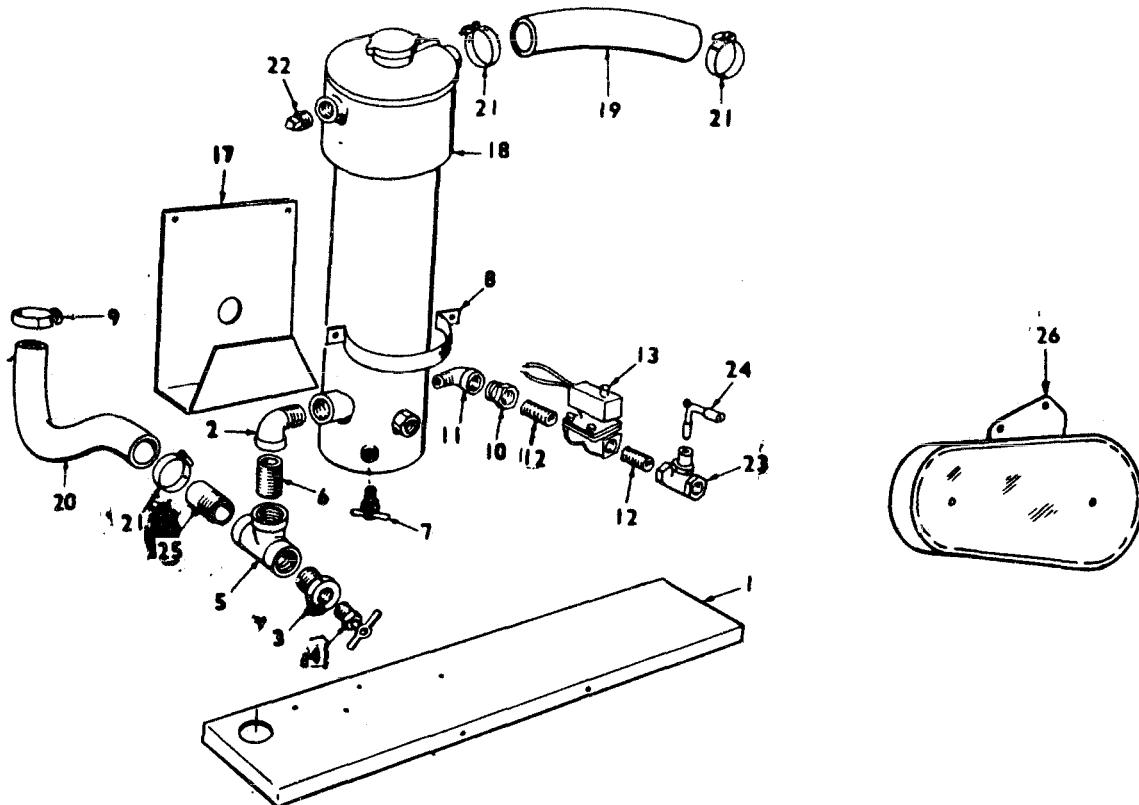
PART NO.	QTY. USED	PART DESCRIPTIONS
REGULATOR, VOLTAGE		
		EK Plants
305P117	1	120/240-V, 1-Phase
305P59	1	120/208-V, 120/240-V, and 277/480-V, 3-Phase
305P117	1	All EM Plants
BASE ASSEMBLY, VOLTAGE REGULATOR		
		EK Plants
305C163	1	120/240-V, 1-Phase
305C146	1	120/208-V, 120/240-V, and 277/480-V, 3-Phase
305C163	1	All EM Plants
312A58	1	Condenser, 1 Mfd.

**CONTROL GROUP (Engine Instruments Portion)(Special List)**

PART NO.	QTY. USED	PART DESCRIPTIONS
301C2428	1	Panel, Lower Control - Spec A Only
193P8	1	Gage, Water Temp.-Spec A only
193P3	1	Gage, Oil Pressure-Spec A only
332-607	1	Block, Term. - Spec A only (12-place)
332A795	1	Block, Term. --Begin Spec B (16-Place)
332-608	1	Strip, Marker - Spec A only (4-18)
332-862	1	Strip, Marker - Begin Spec B (4-19)
RESISTOR - SPEC A ONLY		
304A32	1	15-Ohm, 10-Watt
304A161	1	250-Ohm, 25-Watt
304A38	1	5-Ohm, 10-Watt
304A46	1	10-Ohm, 50-Watt
304A19	1	3-Ohm, 50-Watt
304A222	1	15-Ohm, 50-Watt
307B234	1	Solenoid, Start - Spec A only
307A272	1	Bracket, Solenoid Mtg. - Spec A only
306A139	1	Relay, Ignition - Spec A only
332A762	1	Strip Marker (Remote, B -, GND) -Begin Spec B

**CONTROL GROUP (AC Output Portion) (Special List)**

PART NO.	QTY. USED	PART DESCRIPTIONS
PANEL ONLY - UPPER - SPEC A ONLY		
301C1356	1	I-Phase, Housed Plants
301C1374	1	All Unhoused Plants
301C1317	1	All Unhoused Plants
BOX ONLY, CONTROL		
301D2432	1	Spec A only
301D2115	1	Begin Spec B
308-12	1	Switch, Volt.Selector-Spec A only
303-65	1	Rheostat, Volt. Reg. (250-Ohm-Mdl.H)- Spec A only
303-32	2	Knob, Rheostat - Spec A only.
RHEOSTAT AND VOLT REG. SWITCH		
		EK Plants - Spec A only
303P90	1	220/240-V, 1-Phase
303P92	1	120/208-V, 120/240-V, and 277/480-V, 3-Phase
303P90	1	All-EM Plants - Spec A only
303-76	1	Knob, Selector Switch - Spec A only
304A131	1	Resistor, Adj. (750-Ohm, 25-Watt) - Spec A only
304C664	1	Relay, Start Disconnect - Spec A only
320P307	1	Lock, Circuit Brkr. Handle-Begin Spec B
301A2727	1	Handle, Panel - Begin Spec B



#### HEAT EXCHANGER GROUP - OPTIONAL EQUIPMENT (LATE MODELS)

NOTE: See Separate Group for Early Models.

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	130B805	1	Base
2	505-462	1	Elbow, Street (1-1/2" x 90°)
3	505-426	1	Bushing, Reducer (1-1/2 x 1/4")
4	504-3	1	Valve, Drain
5	505-317	1	Tee, Pipe (1-1/2")
6	505-220	1	Nipple, Half (1-1/2 x 1-3/4")
7	504-5	1	Valve, Drain
8	130A802	1	Strap, Heat Exchanger Mtg.
9	503P269	1	Clamp, Hose
10	505-21	1	Bushing, Reducer (3/4 x 1/2")
11	505-691	1	Elbow, Street (3/4" x 45°)
12	505-100	2	Nipple, Pipe - Close (1/2")
13	307A833	1	Valve, Water
17	130B803	1	Support
18	130C796	1	Exchanger, Heat
19	503-491	1	Hose
20	503P490	1	Hose
21	503P311	3	Clamp, Hose
22	505-140	1	Plug, Pipe (1")
23	504-19	1	Valve, Lockshield
24	504-52	1	Key, Lockshield Valve
25	505-444	1	Nipple, Half (1-1/2 x 2-1/4")
26	130C782	1	Guard, Belt